



Oxford Cambridge and RSA

AS Level Geography

H081/02 Geographical debates

Friday 19 May 2017 – Afternoon

Time allowed: 1 hour 30 minutes



You must have:

- the Resource Booklet (inserted)
- the OCR 12-page Answer Booklet (OCR12 sent with general stationery)

You may use:

- a ruler (cm/mm)
- a scientific and graphical calculator

INSTRUCTIONS

- The Resource Booklet will be found inside this document.
- Use black ink. You may use an HB pencil for graphs and diagrams.
- Section A: Choose **one** topic and answer **all** parts of the question in the topic.
- Section B – Synoptic questions: Choose **one** topic and answer **all** parts of the question in the topic. You must use your knowledge and understanding from across the course of study to answer these questions.
- Section C: Choose **one** topic and answer **one** question in the topic.
- Write your answer to each question in the Answer Booklet.
- Do **not** write in the barcodes.

INFORMATION

- The total mark for this paper is **68**.
- The marks for each question are shown in brackets [].
- Quality of extended responses will be assessed in questions marked with an asterisk (*).
- This document consists of **12** pages.

Section A

Choose **one** topic and answer **all** parts of the question in the topic.

Topic 2.1 Climate Change

- 1 (a) Explain how solar output influences climate change.

[4]

- (b) Suggest how additional greenhouse gases entering the atmosphere enhance the natural greenhouse effect.

[6]

- (c) Study **Table 1**, which shows annual methane gas emissions from human activities 1860–2010.

| Year | 1860 | 1880 | 1900 | 1920 | 1940 | 1960 | 1980 | 2000 | 2010 |
|--|------|------|------|------|------|------|------|------|------|
| Methane gas emissions¹ | 79 | 98 | 95 | 137 | 162 | 221 | 319 | 389 | 442 |

¹ Methane gas emissions in teragrams (Tg) 1 teragram = 1 billion kilograms

Table 1 Annual methane gas emissions from human activities 1860–2010

- (i) Using the methane gas emissions data above, calculate the median and mean values. You must show your working. Give your answer correct to 1 decimal place for the value of the mean.
- [4]
- (ii) Using evidence from the table above, analyse reasons for changes in methane gas emitted from human activities.
- [6]
- (d) 'Dealing with the human causes of climate change relies on international agreements.' How far do you agree with this statement?
- [12]

Topic 2.2 Disease Dilemmas

- 2 (a) Explain how contagious and non-contagious diseases spread.

[4]

- (b) Suggest why outbreaks of some diseases are influenced by climatic seasons.

[6]

- (c) Study **Table 2**, which shows the % of infants (< 5 years) vaccinated against hepatitis B¹ in selected countries in 2014.

| Country | Belgium | Chad | Equatorial Guinea | Malaysia | Mexico | Nigeria | Pakistan | USA | Zambia |
|----------------------|---------|------|-------------------|----------|--------|---------|----------|-----|--------|
| % infants vaccinated | 98 | 46 | 24 | 96 | 84 | 66 | 73 | 90 | 86 |

¹ hepatitis B is an infectious disease which affects the liver.

Table 2 Percentage of infants (<5 years) vaccinated against hepatitis B in selected countries in 2014

- (i) Using the vaccination data above, calculate the median and mean values. You must show your working. Give your answer correct to 1 decimal place for the value of the mean.
- (ii) Using evidence from the table above, analyse reasons for contrasts in the % of infants vaccinated.
- (d) 'The spread of a communicable disease is mainly due to environmental factors.' To what extent do you agree with this statement?

[4]

[6]

[12]

Topic 2.3 Exploring Oceans

- 3 (a) Explain the pattern of circulation in the North Atlantic.

[4]

- (b) Suggest why ocean acidification has impacts for people.

[6]

- (c) Study **Table 3**, which shows the number of observed oil spills in the Baltic Sea for selected years 1990–2015.

| Year | 1990 | 1995 | 2000 | 2003 | 2005 | 2008 | 2010 | 2012 | 2015 |
|-------------------------------|------|------|------|------|------|------|------|------|------|
| Number of observed oil spills | 415 | 650 | 480 | 280 | 220 | 202 | 150 | 145 | 130 |

Table 3 Number of observed oil spills in the Baltic Sea for selected years 1990–2015

- (i) Using the oil spill data above, calculate the median and mean values. You must show your working. Give your answer correct to 1 decimal place for the value of the mean.

[4]

- (ii) Using evidence from the table above, analyse reasons for changes in the number of oil spills observed.

[6]

- (d) To what extent can ocean resources be managed by governments?

[12]

Topic 2.4 Future of Food

- 4 (a) Explain the differences between intensive and extensive methods of food production.

[4]

- (b) Suggest why systems of land ownership impact on food security.

[6]

- (c) Study **Table 4**, which shows cereal production for selected countries, 2014.

| Country | Belgium | Brazil | Chad | India | Mexico | Poland | Somalia | Uganda | USA |
|------------------------------|---------|--------|------|-------|--------|--------|---------|--------|------|
| Cereal produced ¹ | 9539 | 4641 | 941 | 2981 | 3582 | 4268 | 730 | 2019 | 7637 |

¹ cereal production in kilograms per hectare

Table 4 Cereal production for selected countries, 2014

- (i) Using the cereal production data above, calculate the mean and median values. You must show your working. Give your answer correct to 1 decimal place for the value of the mean.
- (ii) Using evidence from the table above, analyse reasons for contrasts in cereal production.
- (d) 'The level of economic development is the key influence on food security of places.' How far do you agree with this statement?

[4]

[6]

[12]

Topic 2.5 Hazardous Earth

- 5 (a) Explain the differences between explosive and effusive eruptions.

[4]

- (b) Suggest why flooding can result from earthquake activity.

[6]

- (c) Study **Table 5**, which shows the distribution of very small ash particles from the vent of the Eyjafjallajökull volcano, Iceland 2010.

| Distance from vent (km) | 1 | 2 | 5 | 10 | 21 | 30 | 56 | 58 | 60 |
|-------------------------------|----|----|----|----|----|----|----|----|----|
| % of very small ash particles | 11 | 15 | 17 | 19 | 26 | 29 | 45 | 51 | 70 |

Table 5 Distribution of very small ash particles from the vent of the Eyjafjallajökull volcano, Iceland 2010

- (i) Using the % of very small ash particles data above, calculate the median and mean values. You must show your working. Give your answer correct to 1 decimal place for the value of the mean.

[4]

- (ii) Using evidence from the table above, analyse reasons for changes in the % of very small ash particles observed.

[6]

- (d) Discuss the extent to which risks posed by tectonic hazards have reduced over time.

[12]

Section B – Synoptic questions

Choose **one** topic and answer **all** parts of the question in the topic. You must use your knowledge and understanding from across the course of study to answer these questions.

Topic 2.1 Climate Change

- 6 (a) With reference to **Fig. 1**, suggest how climate change can impact on the natural characteristics of places.

[8]

- (b) Examine how climate change can influence flows of energy and materials through landscape systems.

[8]

Topic 2.2 Disease Dilemmas

- 7 (a) With reference to **Fig. 2**, suggest how social inequality can influence risks from disease in places.

[8]

- (b) Examine how physical factors influencing landscape systems can increase the spread of disease.

[8]

Topic 2.3 Exploring Oceans

- 8 (a) With reference to **Fig. 3**, suggest how geology can influence both landscape systems and ocean basins.

[8]

- (b) Examine how changes to the extent of sea ice might affect place profiles.

[8]

Topic 2.4 Future of Food

- 9 (a) With reference to **Fig. 4**, suggest how food production methods can impact on human characteristics of places.

[8]

- (b) Examine how physical factors affecting landscape systems can influence food production.

[8]

Topic 2.5 Hazardous Earth

- 10 (a) With reference to **Fig. 5**, suggest how tectonic hazards can influence the informal representation of a place.

[8]

- (b) Examine how volcanic and earthquake activity can influence landscape systems.

[8]

Section C

Choose **one** topic and answer **one** question in the topic.

Topic 2.1 Climate Change

- 11*** 'The impacts of climate change will increase global poverty and inequality.'
How far do you agree with this statement?

[20]

Or

- 12*** 'Current levels of anthropogenic greenhouse gas (GHG) emissions are largely from EDCs.'
How far do you agree?

[20]

Topic 2.2 Disease Dilemmas

- 13*** Examine the link between levels of economic development and the prevalence of noncommunicable diseases.

[20]

Or

- 14*** Assess the effectiveness of strategies to deal with disease risk and eradication.

[20]

Topic 2.3 Exploring Oceans

- 15*** Examine the extent to which globalisation has affected the use of oceans.

[20]

Or

- 16*** Assess the effectiveness of stakeholders in the use and management of one renewable biological resource.

[20]

Topic 2.4 Future of Food

- 17*** Examine the extent to which food security can impact on the physical environment.

[20]

Or

- 18*** 'Increased risks to food security from desertification are due to human activities.'
To what extent do you agree with this statement?

[20]

Topic 2.5 Hazardous Earth

19* Assess how effectively hazards from volcanic eruptions are managed in countries with contrasting levels of economic development.

[20]

Or

20* Assess the extent to which impacts from earthquake activity vary across countries with contrasting levels of economic development.

[20]

END OF QUESTION PAPER

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